AMENDMENTS TO THE CLAIMS

Without prejudice or disclaimer, this listing of claims will replace all prior versions and listings of claims in the application.

1-28. (canceled)

29. (currently amended) A fluidics system, comprising:

a primary fluid channel comprising an input and an output,

an enclosed first reservoir connected to said primary fluid channel input and comprising a first adjustable vent;

an enclosed second reservoir connected to said primary fluid channel input and comprising a second adjustable vent; and

a negative pressure source connected to said primary fluid channel output;

wherein the fluidics system is configured to selectively draw at least one fluid from at least one of the first and second reservoirs into the primary fluid channel with the proviso that fluid does not flow from the reservoirs into the primary fluid channel unless both the negative pressure source is activated and at least one of the reservoirs is unsealed;

wherein the negative pressure source is configured to draw the at least one fluid at a predetermined flow rate; and

wherein the primary fluid channel is configured to have a characteristic dimension such that the selective ~~fluid~~ drawing of the fluid at the flow rate is not a low Reynolds number fluid flow.

30-46. (canceled)

47. (previously presented) The fluidics system of claim 29, further comprising:

an analytical device associated with said primary fluid channel.

48. (withdrawn) The fluidics system of claim 29, wherein said primary fluid channel is at least 10% larger in cross section than any particle in said at least one fluid.

49. (withdrawn) The fluidics system of claim 29, further comprising:
more than one secondary fluid channel configured parallel and/or serial to each other.

50. (withdrawn) The fluidics system of claim 49, further comprising:
more than one negative pressure source downstream of said secondary fluid channels.

51. (withdrawn) The fluidics system of claim 49, further comprising:
a manifold connecting said secondary fluid channels to said negative pressure source.

52. (withdrawn) The fluidics system of claim 29, wherein said first reservoir comprises more than one chamber.

53. (withdrawn) The fluidics system of claim 29, further comprising:
a valve associated with said first vent; and
a valve associated with said second vent.

54. (withdrawn) The fluidics system of claim 29, further, comprising:
an auxiliary fluid reservoir and a connection valve;
wherein the auxiliary fluid reservoir is connected in series through the connection valve to an auxiliary input of at least one of the first and second reservoirs; and
wherein the system is configured to selectively draw fluid from the auxiliary fluid reservoir into at least one of the first and second reservoirs when the negative pressure source is activated, the connection valve is open, and the respective reservoir is not vented to a pressure source having a pressure less than a pressure of the negative pressure source.

55. (withdrawn) The fluidics system of claim 29, further comprising:
a second primary fluid channel; and
a second manifold connecting said primary fluid channels to said negative pressure source downstream of said primary fluid channels.

56. (previously presented) The fluidics system of claim 29, further comprising:
a waveguide for surface-sensitive optical detection of an analyte in said first or second fluid.

57. (previously presented) The fluidics system of claim 56, further comprising:
a waveguide sensing system;
wherein said waveguide sensing system comprises:
a plurality of waveguides;
wherein each of said waveguides has a first surface, a second surface opposing said first surface, and an end surface essentially perpendicular to said first and second surfaces, and
wherein said first surface of each of said waveguides has an analyte recognition element thereon;
a waveguide holder to which each of said waveguides is secured; and
an optical detector positioned opposite said end surface of at least one of said waveguides.

58. (withdrawn) The fluidics system of claim 29,
wherein said first and second vents are adjustable so that first and second fluids from said first and second reservoirs, respectively, move at a first and a second flow rate to said primary fluid channel; and
wherein a difference between said first and second flow rates is proportional to a difference in adjustments of said first and second vents.

59. (withdrawn) The fluidics system of claim 29,
wherein first or second fluid moves from said first or second reservoirs, respectively, at a first and second flow rate;
wherein a difference between said first and second flow rates if proportional to a differential fluid flow resistance; and
wherein said differential fluid flow resistance is adjusted by said first and second fluid vents.

60. (withdrawn) The fluidics system of claim 29, wherein said primary fluid channel has a cross section greater than 1 micron.

61. (previously presented) The fluidics system of claim 29, wherein said system is a portable analysis system configured to perform at least one of a biological and chemical analysis.

62. (canceled)

63. (withdrawn) The system of claim 29, wherein the system further comprises a system relief vent connected to said primary flow channel, said system relief vent being configured to seal and unseal said primary flow channel from contact with an external atmosphere.

64. (withdrawn) A portable analysis system for conduction of biochemical and/or chemical analysis comprising:

a three-dimensional fluid circuit;

a first enclosed reservoir having a first adjustable vent;

a second enclosed reservoir having a second adjustable vent;

a first passageway for receiving a first fluid from said first reservoir;

a second passageway for receiving a second fluid from said second reservoir;

a primary fluid channel;

wherein the primary fluid channel is configured to have a characteristic dimension such that the selective fluid drawing is not a low Reynolds number fluid flow;

a first connecting channel connecting said first passageway upstream to said primary channel;

a second connecting channel connecting said second passageway upstream to said primary channel;

a multimode waveguide;

a barrier configured to prevent fluid flow between said first and second connecting channels; and

a negative pressure source downstream of said primary fluid channel;

wherein said first and second reservoirs and passageways are elements in said fluid circuit;

wherein said fluid circuit comprising elements and a series of layers and at least one of said elements is formed using molding techniques and at least partial elements are formed by molding and mechanical, chemical, thermal or optical etching;

wherein each layer of a series of layers is at least a partial element of said fluid circuit;

wherein said layers are fused together to form complete elements of said fluid circuit; and

wherein said negative pressure source being configured

for moving said first fluid but not said second fluid to said primary fluid channel only when at least the negative pressure source is activated and when said first adjustable vent is not in a closed position and when said second adjustable vent is in a closed position; and

for moving said second fluid but not said first fluid to said primary fluid channel only when at least the negative pressure source is activated and when said second adjustable vent is not closed and when said first adjustable vent is closed.

65. (previously presented) The fluidics system of claim 64, wherein said fluidics system is configured to conduct analysis of at least one of said first and second fluid.

66. (previously presented) The fluidics system of claim 65, wherein said first and second fluids are analyzed in said primary fluid channel.

67. (previously presented) The fluidics system of claim 64, wherein said first fluid is a sample and said second fluid is a reagent.

68. (withdrawn – currently amended) A method of controlling fluid flow, comprising:

moving a first fluid in a first reservoir having an adjustable first vent to a primary fluid channel when said first adjustable vent is not in a closed position and not moving a second fluid in a second reservoir having a second adjustable vent in a closed position when a negative pressure source is activated downstream of said primary fluid channel;

wherein the negative pressure source is configured to draw the at least one fluid at a predetermined flow rate;

wherein the primary fluid channel is configured to have a characteristic dimension such that the selective ~~fluid~~ drawing of the fluid at the flow rate is not a low Reynolds number fluid flow.

69. (withdrawn – currently amended) A method of performing a biochemical analysis, comprising:

moving a first fluid in a first reservoir having an adjustable first vent to a primary fluid channel when said first adjustable vent is not in a closed position and not moving a second fluid in a second reservoir having a second adjustable vent in a closed position when a negative pressure source is activated downstream of said primary fluid channel;

wherein the negative pressure source is configured to draw the at least one fluid at a predetermined flow rate;

wherein the primary fluid channel is configured to have a characteristic dimension such that the selective ~~fluid~~ drawing of the fluid at the flow rate is not a low Reynolds number fluid flow; and

analyzing said first fluid.

70. (withdrawn) The method of claim 69,

wherein said analyzing step is performed in said primary fluid channel, and

wherein in said primary channel an internal surface is configured to at least one of capture, recognize, respond to, and detect an analyte.

71. (withdrawn) The method of claim 70,

wherein said primary fluid channel comprises a waveguide,

wherein said waveguide as adapted for transmitting optical signals to a detector, and

wherein said optical signal indicates presence or absence of an analyte.

72. (withdrawn) The method of claim 71,

wherein said waveguide comprises a multimode waveguide having a surface bearing patterned, reflective coating,

wherein said coating defines a reflectively coated region and a first optically exposed region on said surface,

wherein said first optically exposed region is configured to produce an alteration indicative of the presence of a first analyte,

wherein said alteration is detectable by launching a light wave into said waveguide to generate an evanescent field at said patterned surface, and then detecting an interaction of said first optically exposed region with said evanescent wave.

73. (withdrawn – currently amended) A method of controlling fluid flow, comprising:

selectively drawing at least one fluid from at least one of a first and a second reservoir into a primary fluid channel, the selectively drawing comprising activating a negative pressure source and unsealing one of the reservoirs,

wherein the negative pressure source is configured to draw the at least one fluid at a predetermined flow rate;

wherein the primary fluid channel is configured to have a characteristic dimension such that the selective ~~fluid~~ drawing of the fluid at the flow rate is not a low Reynolds number fluid flow; and

wherein the primary fluid channel comprises an input and an output;

wherein the first reservoir comprises a first fluid output fluidically connected to the primary fluid channel input, and a first vent configured to selectively seal and unseal said first reservoir;

wherein the second reservoir comprises a second fluid output fluidically connected to the primary fluid channel input, and a second vent configured to selectively seal and unseal said second reservoir; and

wherein the negative pressure source is connected to the primary fluid channel output.

74. (new) The fluidics system of claim 29, wherein the at least one fluid comprises an aqueous fluid.

75. (new) The fluidics systems of claim 74, wherein the at least one fluid comprises at least one chemical or biological species.